

WHAT IS CLAIMED IS:

1. A coated steel sheet provided with an electrodeposition painting having a superior appearance, the coated steel sheet comprising:

a steel sheet; and

at least two coating layers on the steel sheet,

wherein the coated steel sheet has surface roughness properties, in which an arithmetic mean roughness Ra as defined by JIS B 0601-1994, is in the range of from about 0.7 to about 1.5 μm and a peak per inch PPI is in the range of from about 180 to about 250.

2. The coated steel sheet according to Claim 1,

wherein, in a spectral analysis obtained by Fourier transformation of a surface roughness measurement curve, an area obtained from an amplitude curve in the range of from 25 to 200 μm in wavelength is about 25% or more of the area obtained from the amplitude curve in the range of from 25 to 1,000 μm in wavelength.

3. The coated steel sheet according to Claim 1 or 2,

wherein said at least two coating layers are a first coating layer formed on the steel sheet and a second coating layer formed on the first coating layer,

the first coating layer is a layer selected from the group consisting of an electroplated layer, a hot-dip plated layer, and a chemical conversion layer, and

the second coating layer is a layer selected from the group consisting of a zinc phosphate layer and a chromate layer.

4. The coated steel sheet according to Claim 1 or 2,
wherein said at least two coating layers are a first coating layer formed on the steel sheet,
a second coating layer formed on the first coating layer, and a third coating layer formed on the
second coating layer,

the first coating layer is a layer selected from the group consisting of an electroplated
layer, a hot-dip plated layer, and a chemical conversion layer,

the second coating layer is a layer selected from the group consisting of a zinc phosphate
layer and a chromate layer, and

the third coating layer is a layer selected from the group consisting of an organic layer,
an inorganic layer, and a chemical conversion layer.

5. The coated steel sheet according to Claim 1 or 2, wherein the arithmetic means
roughness Ra is in the range of from about 0.8 to about 1.3 μm .

6. The coated steel sheet according to Claim 1 or 2, wherein the peak per inch PPI is in
the range of from about 190 to about 240.

7. A coated steel sheet provided with an electrodeposition painting having a superior
appearance, the coated steel sheet comprising:

a steel sheet;

a zinc-based plated layer formed on a surface of the steel sheet; and

a zinc phosphate layer formed on a surface of the plated layer,

wherein the coated steel sheet has surface roughness properties, in which an arithmetic
mean roughness Ra as defined by JIS B 0601-1994, is in the range of from about 0.7 to about
1.5 μm and a peak per inch PPI is in the range of from about 180 to about 250.

8. The coated steel sheet according to Claim 7,

wherein, in a spectral analysis obtained by Fourier transformation of a surface roughness measurement curve, an area obtained from an amplitude curve in the range of from 25 to 200 μm in wavelength is about 25% or more of the area obtained from the amplitude curve in the range of from 25 to 1,000 μm in wavelength.

9. The coated steel sheet according to Claim 7 or 8, wherein the zinc-based plated layer has a plating amount of about 20 to about 60 g/m^2 .

10. The coated steel sheet according to Claim 7 or 8, wherein the zinc phosphate layer has a coating amount of about 1.0 to about 3.0 g/m^2 .

11. The coated steel sheet according to Claim 7 or 8, wherein the arithmetic means roughness R_a is in the range of from about 0.8 to about 1.3 μm .

12. The coated steel sheet according to Claim 7 or 8, wherein the peak per inch PPI is in the range of from about 190 to about 240.